

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently Amended) Hydraulical switchable distribution valve (10) in particular for shield supports in underground mining, with:

[[[-]]] a high pressure port (P), a load port (A), a return port (R), and a control pressure port (ST) for hydraulic fluid[[,]];]

[[[-]]] a valve piston (12), axially displaceable in a location hole of a valve seat mounting (11), which at its open end face (26) is connected to the load port (A), which comprises a radial aperture (29) and which when in contact with a sealing seat on the valve seat mounting side blocks off the load port (A) from the high pressure port (P);

[[[-]]] a control piston (13) in a control piston guide (14), which can be displaced by means of a force exerted by a control pressure at the control pressure port, by means of which the return port (R), as a function of the position of the control piston, can be connected with the load port or can be blocked off from the load port (A) and the high pressure port (P), characterised in that wherein

[[[-]]] the valve piston comprises a second radial aperture (28), displaced towards the end face relative to the first radial aperture (29), and that the first radial aperture (29) can be closed by the control piston (13) with the arrival of the control piston (13) at an intermediate position between an initial position and an end position.

2 (Currently Amended) Distribution valve (10) in accordance with Claim 1, characterised in that wherein the valve piston is guided between both radial apertures (28; 29) in a valve piston sliding guide (20A) with the formation of a throttling clearance, ~~where the second radial aperture (28), as a function of the location of the valve piston, preferably lies opposite to the valve piston sliding guide (20A) or lies on the high pressure side of the valve piston sliding guide (20A).~~

3. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 1 or 2, characterised in that wherein the throttling clearance, if the control piston (13) is positioned in the intermediate position, with contact between the valve piston (12) with the sealing seat, forms a restricted fluid connection between the load port (A) and the return port (R), and with an opened sealing seat forms a restricted fluid connection between the high pressure port (P) and the return port (R) the second radial aperture, as a function of the location of the valve piston, lies opposite to the valve piston sliding guide or lies on the high pressure side of the valve piston sliding guide.
4. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 1 to 32, characterised in that wherein the load port (A) in the initial position of the control piston (13) is connected with the return port (R) via the first radial aperture (29), and in that the control piston in its end position closes off the return port (R), where the second radial aperture (28) completely unblocks the fluid connection between the high pressure port (P) and the load port (A) throttling clearance, if the control piston is positioned in the intermediate position, with contact between the valve piston with the sealing seat, forms a restricted fluid connection between the load port and the return port, and with an opened sealing seat forms a restricted fluid connection between the high pressure port and the return port.
5. (Currently Amended) Distribution valve (10) in accordance with one of the claims 1 to 3, characterised in that wherein the control piston (13) is free to move relative to the valve piston (12) from its initial position up to its intermediate position, and travels from the intermediate position to the end position coupled with the valve piston (12) load port in the initial position of the control piston is connected with the return port via the first radial aperture, and in that the control piston in its end position closes off the return port, where the second radial aperture completely unblocks the fluid connection between the high pressure port and the load port.
6. (Currently Amended) Distribution valve (10) in accordance with Claim 51, characterised in that wherein the control piston (13) at its end face facing the control pressure port (ST) comprises an inward facing flange (34), which in the intermediate position of the control piston (13) comes into contact with a shoulder section (35) of the valve piston (12) is free to move relative to the valve piston from its initial position

up to its intermediate position, and travels from the intermediate position to the end position coupled with the valve piston.

7. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 1 to 6, characterised in that wherein the valve piston (12) is fitted with a valve cone (15) and that a sealing ring (18) with a cone surface provided for the sealing seat is located on the valve seat mounting (11), where the sealing ring (18) is preferably fixed in the valve seat mounting (11) by means of a retention ring (20) and that the retention ring (20) with its interior wall surface forms the valve piston sliding guide (20A) control piston at its end face facing the control pressure port comprises an inward-facing flange, which in the intermediate position of the control piston comes into contact with a shoulder section of the valve piston.

8. (Currently Amended) Distribution valve (10) in accordance with Claim 87, characterised in that wherein the valve piston (12) on its outer wall surface comprises a cone face ring (16), on the bottom surface of 20 which is provided the valve cone (15), the cone face ring (16) being located on the high pressure side of the second radial aperture (28) is fitted with a valve cone and that a sealing ring with a cone surface provided for the sealing seat is located on the valve seat mounting.

9. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 1 to 78, characterised in that wherein the control piston (13) comprises a control piston shaft (36), that in the intermediate and end positions of the control piston (13) overlaps the first radial aperture (29) so as to sealedly overlap it or overlap the latter while leaving a throttle clearance sealing ring is fixed in the valve seat mounting by means of a retention ring and wherein the retention ring with its interior wall surface forms the valve piston sliding guide.

10. (Currently Amended) Distribution valve (10) in accordance with Claim 98, characterised in that wherein a sealing seat element is located in the valve seat mounting (11) on which, in the end position of the control piston (13), a forward end of the control piston shaft (36) comes into sealing contact the valve piston on its outer wall surface comprises a cone face ring, on the bottom surface of which is provided the valve cone, the cone face ring being located on the high pressure side of the second radial aperture.

11. (Currently Amended) Distribution valve in accordance with Claim 10, characterised in that wherein the retention ring (20) and the sealing seat element are formed in one piece and/or that the valve seat mounting (11) comprises a stepped location section (19) in which the sealing ring (18) and the retention ring (20) are clamped in a form fit manner valve piston on its outer wall surface comprises a cone face ring, on the bottom surface of which is provided the valve cone, the cone face ring being located on the high pressure side of the second radial aperture.
12. (Currently Amended) Distribution valve (10) in accordance with Claim 119, characterised in that wherein the retention ring (20) surrounds the sealing ring (18) on the side facing away from the piston sealing face with an inward chamfered ring mounting (22) in a form fit manner control piston comprises a control piston shaft, that in the intermediate and end positions of the control piston overlaps the first radial aperture so as to sealedly overlap it or overlap the latter while leaving a throttle clearance.
13. (Currently Amended) Distribution valve in accordance with one of the Claims 2 to 12, characterised in that the sealing ring (18) is manufactured from a plastic a sealing seat element is located in the valve seat mounting on which, in the end position of the control piston, a forward end of the control piston shaft comes into sealing contact.
14. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 3 to 13, characterised in that wherein the retention ring (20) is manufactured from a steel retention ring and the sealing seat element are formed in one piece and/or that the valve seat mounting comprises a stepped location section in which the sealing ring and the retention ring are clamped in a form fit manner.
15. (Currently Amended) Distribution valve (10) in accordance with one of the Claims 1 to 14, characterised in that wherein the individual components of the distribution valve are clamped in a force fit manner by means of a screw fixing in the valve housing, which screw fixing closes off the location hole toward the outside the retention ring surrounds the sealing ring on the side facing away from the piston sealing face with an inward chamfered ring mounting in a form fit manner.

16. (Currently Amended) Distribution valve (10) in accordance with ~~one of the Claims 2 to 15~~ ~~9, characterised in that~~ wherein the a closing spring (17) located in the valve seat mounting (11) acts together with the valve piston (12) such that the valve cone (15) is clamped against the sealing ring (18) sealing ring is manufactured from a plastic and the retention ring is manufactured from a steel.

17. (Currently Amended) Distribution valve (10) in accordance with ~~one of the Claims 1 to 16~~, characterised in that ~~the first radial aperture (29) and/or the second radial aperture (28) is configured as a radial hole and/or the radial apertures (28, 29) consist of a number of radial holes, preferably four, located around the circumference and spaced apart from each other~~ wherein the individual components of the distribution valve are clamped in a force fit manner by means of a screw fixing in the valve housing, which screw fixing closes off the location hole toward the outside.

18. (Currently Amended) Distribution valve (10) in accordance with ~~one of the Claims 1 to 17~~, characterised in that ~~wherein the valve piston (12) is axially secured in the valve seat mounting (11) with a snap ring (40)~~ a closing spring located in the valve seat mounting acts together with the valve piston such that the valve cone is clamped against the sealing ring.

19. (Currently Amended) Distribution valve (10) in accordance with ~~one of the Claims 1 to 18~~, characterised in that ~~the valve piston (12) comprises on its closed face opposite to the open end face (26) a connecting thread (39) for connection of a disassembly tool~~ wherein the first radial aperture and the second radial aperture are configured as a radial hole and the radial apertures consist of a number of radial holes, preferably four, located around the circumference and spaced apart from each other.

20. (New) Distribution valve in accordance with Claim 1, wherein the valve piston is axially secured in the valve seat mounting with a snap ring.

21. (New) Distribution valve in accordance with Claim 1, wherein the valve piston comprises on its closed face opposite to the open end face a connecting thread for connection of a disassembly tool.